Claims

1. Apparatus including

a first device having a plurality of network input interfaces and a plurality of network output interfaces, said first device including a packet information extractor coupled to at least one said network input interface;

a second device coupled to said packet information extractor, said second device capable of generating packet forwarding information and output port information responsive to an output of said packet information extractor; and

an information link, coupled to said first device and said second device.

2. Apparatus as in claim 1, wherein

said first device includes a packet rewriter coupled to at least one said network output interface; and

said second device includes a packet rewrite generator coupled to said first device, said packet rewrite generator disposed for generating said packet forwarding information and output port information;

wherein said packet rewrite element is responsive to said packet rewrite generator.

3. Apparatus as in claim 1, including a packet buffer memory coupled to said first device.

4. Apparatus as in claim 1, wherein said first device consists of a circuit integrated into a single monolithic semiconductor circuit.

5. Apparatus as in claim 1, wherein said second device consists of a circuit integrated into a single monolithic semiconductor circuit.

6. Apparatus as in claim 1, wherein

said first device consists of a circuit integrated into a single monolithic semiconductor circuit; and

said second device consists of a circuit integrated into a single monolithic semiconductor circuit.

7. Apparatus as in claim 1, including a rewrite table including said rewrite information.

8. Apparatus as in claim 7, wherein said first device includes said rewrite table.

9. Apparatus as in claim 7, wherein said second device includes an address pointing into said rewrite table, wherein said address can be forwarded to said first device.

10. Apparatus including

a first device having at least one input interface and at least one output interface, said first device including an information extractor having an input coupled to a packet received from said input interface and having an output coupled to a first memory; and

a second device including a decision generator having an input coupled to said first device, and having an output coupled to said first device;

wherein said first device is responsive to a forwarding treatment from said second device to determine a set of said output interfaces on which to couple said packet.

11. Apparatus as in claim 10, wherein

said forwarding treatment includes packet rewrite information; and

said first device is responsive to said packet rewrite information to rewrite said packet before coupling said packet to said set of output interfaces.

12. Apparatus as in claim 10, wherein said forwarding treatment includes at least one action relating to accounting.

13. Apparatus as in claim 10, wherein said forwarding treatment is responsive to information regarding access control.

14. Apparatus as in claim 10, wherein said forwarding treatment is responsive to information regarding class of service or quality of service.

15. Apparatus as in claim 10, wherein said forwarding treatment is responsive to information regarding parsing, extracting and encoding the packet information passed from said first device to said second device so as to minimize the amount of said information forwarded between said first device and said second device.

16. Apparatus as in claim 10, wherein said forwarding treatment is responsive to said packet information memory.

17. Apparatus as in claim 10, wherein said first device consists of a circuit integrated into a single monolithic semiconductor circuit.

18. Apparatus as in claim 10, wherein said second device consists of a circuit integrated into a single monolithic semiconductor circuit.

19. A device integrated into a single monolithic semiconductor circuit, said device including

at least one input interface and at least one output interface;

an information extractor having an input coupled to a packet received from said input interface, and having an output coupled to a packet information memory;

an input coupled to a forwarding treatment memory;

said device being responsive to said forwarding treatment memory to determine a set of said output interfaces on which to couple said packet.

20. Apparatus as in claim 19, including

a second device coupled to said packet information memory;

a decision generator in said second device having an input coupled to said packet information memory, and having an output coupled to a forwarding treatment memory;

said first device being responsive to said forwarding treatment memory to determine a set of said output interfaces on which to couple said packet.

21. A device integrated into a single monolithic semiconductor circuit, said device including

an input coupled to a packet information memory;

an output coupled to a forwarding treatment memory; and

a decision generator coupled to said packet information memory and to said forwarding treatment memory.

22. Apparatus as in claim 21, including

a packet data device having at least one input interface and at least one output interface, said packet data device including an information extractor having an input

coupled to a packet received from said input interface, and having an output coupled to said packet information memory;

said packet data device being responsive to said forwarding treatment memory to determine a set of said output interfaces on which to couple said packet.